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GLACIAL ACTION IN FUEGIA AND PATAGONIA.—Professor Agassiz of the Hassler Expedition, as we find in the "American Journal of Science and Arts," gives an interesting account of land ice action in these countries, describing rounded and polished rocks, boulders, and glacial scratches. Prof. Agassiz concludes from the character of the north and south sides of the summits in Fuegia, and from other facts, that the movement of the ice was towards the north, and independent mainly of the present slopes of the land. The region over which he states that he observed glacial phenomena in southern South America includes all of the continent south of 37° of south latitude both on the Atlantic side (Bay of St. Matthias) and the Pacific side.

NEW LAND SHELLS FROM THE COAL MEASURES.—Prof. F. H. Bradley describes and figures in the August number of the "American Journal of Science and Arts" two new land shells from the coal formation of Illinois. It will be remembered that Dr. Dawson found many years since a pupa (*P. vetusta*) in the same formation in Nova Scotia. The new pupa is called *Pupa Vermilionensis*. The other shell, referred by Messrs. Meek and Worthen to a marine family (Rotellidæ), Mr. Bradley considers as a helicid, and describes it under the name of *Anomphalus Meekii.*

ANTHROPOLOGY.

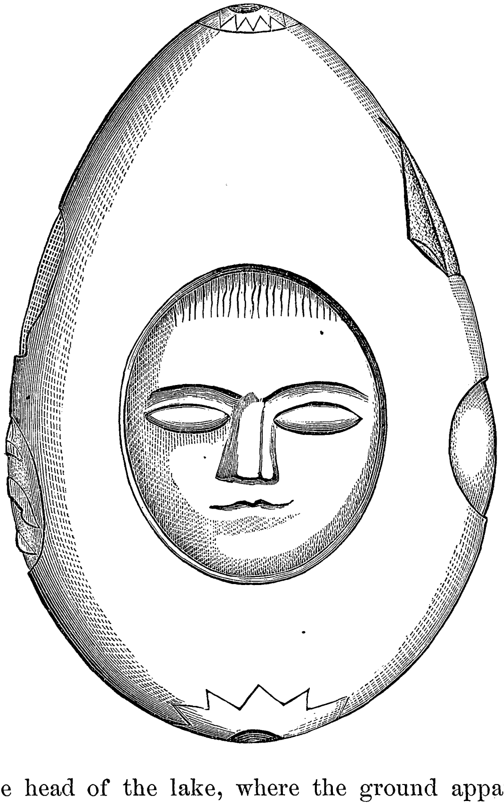
A REMARKABLE INDIAN RELIC.—Having a few days of leisure, I started on Monday last, in company with my friend, J. F. Bly, Esq., to visit the fish-breeding establishment of Jazael Robinson at Meredith Village, N. H., hoping to make some pleasant additions to my rather limited knowledge of Natural History, to refresh the memories of beautiful scenery about the lake, and breathe again the air of the mountains.

The process of fish breeding and raising was elucidated by our guide with so fascinating an interest that we ceased to wonder at the prevalence of "fish fever." Some five thousand trout in the lower pond were a foot or more in length and ravenous for something to bite. A finger held within an inch of the surface was sure to be jumped at and seized—as was a gentleman's nose which happened incautiously to be held too near the water.

On returning to the village we inquired for any object of scientific interest which might be worth seeing, and were told at once of a wonderful sculptured stone which had been found the week before by some workmen of Mr. Seneca A. Ladd. As Mr. Ladd is quite a naturalist, and has already an extensive private collection of relics and specimens, he was delighted with the new discovery, and exhibited and explained the really remarkable relic with an enthusiasm which only the genuine student can feel.

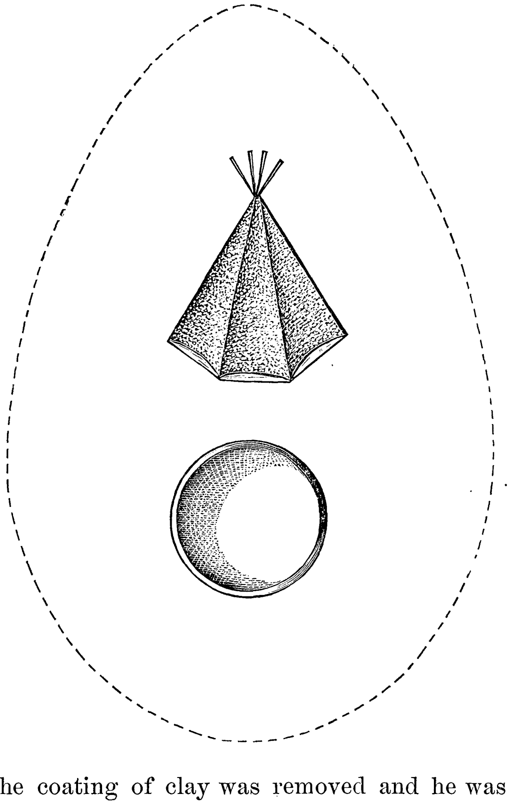
The stone was found at a depth of about two feet, in the sandy drift at the head of the lake, where the ground apparently had not been disturbed for centuries. The location is at the point where Lake Waukewan ("Measly Pond") originally emptied into Lake Winnipiseogee, and was, no doubt, a favorite fishing ground for the primitive tribes that formerly inhabited that region. The water has been diverted from this channel, and now flows through a canal furnishing the remarkable water power of forty feet per-

Fig. 139.



pendicular fall, which carries on the hosiery and other manufactories here. About the first of June Mr. Ladd was causing the digging of post holes for a fence, when one of the laborers threw out what was apparently a lump of clay some six inches in thickness. The occurrence of such a body in this soil attracted Mr. Ladd's attention, and a slight examination revealed a section of the stone. After a careful cleaning process, with water and brushes, the coating of clay was removed and he was delighted to find himself in possession of as interesting an archæological relic as yet found in New England. It is not to be wondered at that he takes pride in showing it, and preserves it with the greatest care. We were kindly allowed to make sketches of it, and have had the illustrations engraved to which we shall refer.

Fig. 140.



The stone is of an oval form, smoothly finished upon the surface, and of as perfect contour as if turned in a lathe. Its dimensions are $3\frac{7}{8}$ inches in length and $2\frac{3}{8}$ inches in thickness. The material is a silicious sandstone of a greenish clay-drab color and of fine grain. The sculptures are mostly in bas-relief, upon a ground sunk below the surface of the stone and of a higher grade of art than usual in Indian workmanship. It is difficult to conceive that such work could be done without the aid of metal tools. A hole was drilled through the longest diameter which tapered uniformly from $\frac{3}{8}$ of an inch at the larger end to $\frac{1}{8}$ at the smaller, the use of which was probably the same as in the class of stones known as "gorgets," to which we should refer it. Around the aperture at each end was a border of points like a star, as will be seen by figure 139.

Fig. 141.

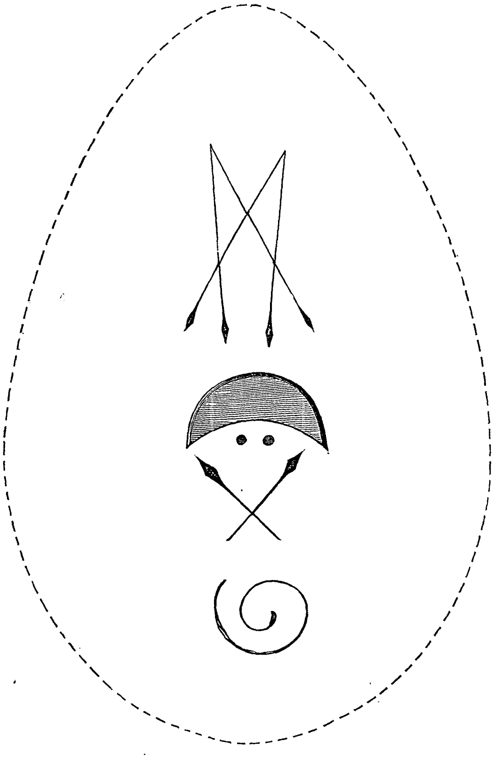


Figure 139 is intended to give an idea of the form of the stone, the figures at the sides being the profiles of Figs. 140 and 142. The Indian 'mask' has the characteristic outline and projecting mouth seen in other specimens of Indian art. The wavy lines on the forehead are supposed to indicate the hair. The finish of the whole is quite elaborate.

In figure 140 the dotted line is intended to indicate the position of the picture on the stone. The lines of the 'wigwam' are regularly drawn, and the surface is "pricked up" or roughened. The circle below is perfectly rounded and supposed to represent the full moon, although every one has the privilege of forming his own theories in regard to the significance of the symbols.

Fig. 142.

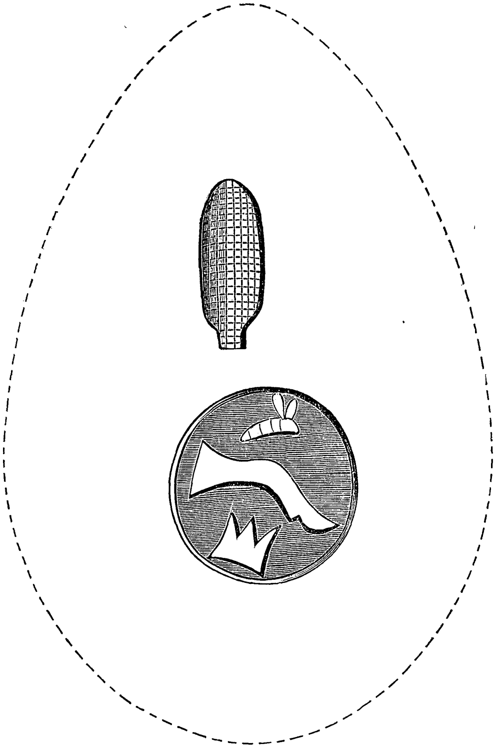


Figure 141 has a delineation of four 'arrows' inverted. Under neath this is a 'new moon,' and two round dots that may represent 'stars.' Below this are two 'arrows,' crossed and a convolute or coil which may be a 'serpent.'

Fig. 142 shows an 'ear of corn,' nicely cut, and in a depressed circle are three figures, the central one representing a 'deer's leg,' and the others of doubtful interpretation.

As an illustration of the surmises of those who are interested in deciphering such inscriptions we give the following, which is certainly ingenious and even plausible.

It is suggested that the stone commemorates a treaty between two tribes. The reversed arrows in Fig. 141 symbolize peace ; the moon and stars the date ; the crossed arrows a union of the two forces for aggressive or defensive purposes, etc. The wigwam might indicate the place where the treaty was consummated, and the corn and other emblems the feast by which it was commemorated.

It is to be hoped that the stone, or, at least, casts and photographs of it, may find their way into our collection at Salem. — D. J. TAPLEY.

THE BOOMERANG.—The earliest inhabitants of the globe as they spread themselves over the earth, would carry with them the rudiments of culture which they possessed, and we should naturally expect to find that the most primitive arts were, in the first instance, the most widely disseminated. Amongst the primæval weapons of the Australians I have traced the boomerang, and the rudimentary parrying shield — which latter is especially a primitive implement — to the Dravidian races of the Indian peninsula and to the ancient Egyptians, and although this is not a circumstance to be relied upon by itself, it is worthy of careful attention in connection with the circumstance that these races have all been traced by Prof. Huxley to the Australoid stock, and that a connection between the Australian and Dravidian languages has been stated to exist by Mr. Morris, the Rev. R. Caldwell, Dr. Bleek, and others.* And here I must ask for one moment to repeat the reply which I have elsewhere given to the objection which has been made to my including these weapons under the same class, "that the Dravidian boomerang does not return like the Australian weapon." The return flight is not a matter of such primary importance as to constitute a generic difference, if I may use the expression, the utility of the return flight has been greatly exaggerated ; it is owing simply to the comparative thinness and lightness of the Australian weapon. All who have witnessed its employment by the natives, concur in saying that it has a random range in its return flight. Any one who will take the trouble to practise with the different forms of this weapon, will perceive that the essential principle of the boomerang, call it by whatever name you please, consists in its bent and flat form, by means of which it can be thrown with a rotatory movement, thereby increasing the *range and flatness of the trajectory.* I have practised with the boomerangs of different nations. I made a *fac simile* of the Egyptian boomerang in the British Museum, and practised with it for some time upon Wormwood Scrubs, and I found that in time I could increase the range from fifty to one hundred paces, which is much farther than I could throw an ordinary stick of the same size with accuracy. I also succeeded in at last obtaining as light return of flight; in fact it flies better than many Australian boomerangs, for they vary considerably in size, weight and form, and many will not return when thrown. The efficacy of the boomerang consists entirely in the *rotation*, by means of which it sails up to a bird upon the wing and knocks it down with its rotating arms; very few of them have any twist in their construction. The stories about hitting an object with accuracy behind the thrower are nursery. tales; but a boomerang, when thrown over a river or swamp will return and be saved. . . . . To deny the affinity of the Australian and Dravidian or Egyptian boomerang on account of the absence of a return flight would be the same as denying the affinity of two languages whose grammatical construction was the same because of their differing materially in their vocabularies. —*From the Address of Col. Fox before the Anthropological Section of the British Assoc. Adv. Sci., Aug.*, 1872, *in "Nature."*

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* Journal of the Anthropological Institute, No. 1, vol. 1, July 1871.

ANTIQUITY OF MAN IN FRANCE.— The International Congress of Anthropology and prehistoric Archæology held its sixth meeting at Brussels in August last. The editor of "La Revue Scientifique" thus notices what had been done in France and Belgium to establish the high antiquity of man. "Indeed, if in France there was announced for the first time in 1829, by three southern geologists, De Christol, Tournal and Emilieu Dumas, the astounding proposition that man was living at the same time as the great animals of lost species whose bones fill the soil of caverns; if it is to the indomitable perseverance of a French savant, Boucher de Perthes, that we have seen this proposition become established in science; if it is to the regretted Thompsen and other savants of Scandinavia that we owe the first attempts of a classification of these times forgotten by history; it is a Belgian, Schmerling, who has definitely demonstrated, and placed beyond controversy, the proposition of our geologists of central France. In 1834 he showed that in the caverns of the province of Liége there existed some very ancient land slides which had recovered some palæontological beds with human bones, these having been thus removed from all subsequent handling, so as to place the contemporaneity of the débris they contained beyond all doubt.

MICROSCOPY.

Classification of Microscopic Objects.— Dr. James Murie, of Middlesex Hospital, England, has contributed two elaborate papers on this subject to the Royal Microscopical Society.

In the arrangement of objects in a microscopical cabinet he adopts the following excellent rules, which are equally applicable to any system of classification. 1. Do not needlessly multiply similar specimens. 2. Do not, on feeble grounds, separate naturally allied objects. 3. Maintain, as far as possible, a uniform style of nomenclature and size of slide. 4. Endeavor to place in the cabinet good typical specimens well prepared. 5. Réject all lumber, which only weakens a collection.

In arranging objects belonging to the organized kingdoms, it is customary to begin with a series of elementary tissues, either preceding the main collection with this, or developing it from this. Thus advise the writers on histology, and thus are arranged the great histological collections. Such a classification, which may be advisable in collections (as in books) used for teaching the elements of histology, and in small private collections where little more than types of the different kinds of cells are present, is unnecessary in large collections designed for consultation and reference by those who are somewhat familiar with the primary elements, and undesirable from causing an unnecessary duplication of specimens and from marring the general harmony and sequence of the grouping. The elementary tissues can generally be conveniently arranged along with the organs they help to build up; or, at most,